PROCEEDINGS

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DESCRIPTION OF NEW SPECIES OF SHELLS CHIEFLY FROM MAGDALENA BAY, LOWER CALIFORNIA.

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In the course of a revision of the West American collection in the National Museum the following species appeared to be undescribed:

? Scintilla chloris, new species.

Shell of a pale green color, translucent, with more or less evident paler rays, the umbo darker than the rest of the disk; inequilateral, rather compressed, the posterior end wider, longer, rounded; the anterior end shorter, attenuated; the exterior polished, with slight concentric irregularities of growth, and extremely faint, partly obsolete radial striulæ; hinge with a long amphidetic ligament in front of which in the left valve is a single noduliform denticle, and behind which is a feebly indicated lateral lamella; the scar of the ligament is long and narrow, there is no evident division into ligament and resilium which might perhaps be visible in a perfectly fresh specimen. The interior of the disk is so polished that the muscular and pallial scars are not distinguishable, but under the microscope a sparse punctation can be made out; the margins are entire. Length of valve, 9.0; length of the part in front of the vertical from the umbo, 3.0; height, 6.0; double diameter of the left valve, 2.0 mm.

Habitat.—Magdalena Bay, L. Cal., collected by C. R. Orcutt. U. S. Nat. Mus. Cat. No. 218179.

Two left valves were obtained. The shell is not absolutely identifiable with *Scintilla* as defined, but seems nearest to that genus, so until it is possible to describe the characters of both valves it seems best to leave it with that genus.

Macron orcutti, new species.

Shell of moderate size, solid, flesh colored under a brown villous periostracum, the aperture white, the throat pale purple; nucleus lost, remaining whorls five, moderately rounded, the suture distinct but not

channelled; the general form Buccinoid; the surface finely, sharply uniformly closely spirally striated; toward the base there are about four sharp distant stronger grooves, the posterior larger than the rest and terminating at the outer lip in a short spur or tooth; siphonal fasciole strong, twisted, keeled; aperture longer than the spire, obovate, with a strong subsutural callus continued into the whorl as a spiral ridge; inner lip and pillar with a smooth arcuate coat of white callus; outer lip with about 15 internal liræ; canal short, deep, recurved. Length of shell, 36; of last whorl, 32; of aperture and canal, 26; max. diameter, 21 mm.

Habitat.—Magdalena Bay, L. Cal., C. R. Orcutt. U. S. Nat. Mus. Cat.

No. 218185.

It was a surprise to find a third species of *Macron* on the coast, especially one of such size, and conspicuously distinct from any of the mutations of *M. aethiops*. Two specimens were obtained.

Phenacolepas magdalena, new species.

Shell white with a yellowish periostracum, nearly orbicular; anterior slope long, convexly arched, posterior slope shorter, straight; apex minute, pointed; sculpture of faint close radiating threads uniformly disposed but not crenulating the margin; these are crossed by low concentric sculpture cutting the threads into nodules; interior white, the lateral muscular impressions very broad; length of shell, 15.5; apex in front of posterior edge, 3.5; breadth, 14.5; height, 5.0 mm.

Habitat.—Magdalena Bay, L. Cal., C. R. Orcutt, U. S. Nat. Mus. Cat.

No. 217907.

This is the first typical species of the genus decribed from West America. Crepidula osculans C. B. Adams, from Panama, afterward named Scutella navicelloides by Carpenter, is the only other species of the family on record from this coast, and as that appears to have a sort of ledge inside the posterior edge and a terminal apex (hence the "Crepidula") it can hardly belong to the group typified by P. crenulatus Broderip.

Marginella californica Tomlin, new var. parallela.

Shell resembling the Californian race of the species but uniformly smaller. The typical form has a faint narrow spiral brown band at the suture, then a pale band, then a broad yellow-brown band, a narrower pale band, a second broad brown band beyond which the shell is pale to the anterior end;—when the shell is not unicolorate. The present variety has the broad brown bands represented by narrow dark brown paired lines with a faint flush of brown between them, giving the shell a very different aspect from the type.

Length of average californica, 8.5; breadth, 4.0 mm.
""" var. parallela, 6.7 " 3.0 "

Habitat.—Magdalena Bay, L. Cal., C. R. Orcutt. U. S. Nat. Mus. Cat. No. 217843.

Numerous specimens were collected.

? Trichotropis (Provanna) Iomana, new species.

Shell thin, white under a dull smooth olive-green periostracum, decollate but indicating more than three whorls; suture deep but not channelled, whorls well rounded; axial sculpture on the last whorl of about twenty slightly arcuate ribs, with subequal interspaces, ceasing abruptly at the periphery; on the preceding whorls these extend from suture to suture; on the base the axial sculpture is reduced to inconspicuous incremental lines; spiral sculpture, behind the periphery, of obscure close-set threads only visible in the interspaces; in front of the periphery and betweenit and the canal are four or five strong cords with narrower deep interspaces, slightly crenulating the thin anterior margin of the outer lip; aperture rounded, throat white, showing the impress of the external sculpture; body and inner lip with a thin white layer of callus; pillar arcuate, angulate at the extremity; canal very short and rather wide. Length of (decollate) two and a half whorls, 7.0; of last whorl, 6.0; of aperture, 4.0; max. diameter, 5.5 mm.

Habitat.—Off Point Loma, San Diego Co., Cal., at station 4354, U. S. Bureau of Fisheries in 650 fathoms, mud, bottom temperature, 38° 5 F. U. S. Nat. Mus. Cat. No. 209112.

This species wants the fimbriate periostracum of *Trichotropis* and the canal is more rounded than in the shallow water species of the genus, but in the absence of soft parts and operculum the shell seems nearer to that group than to any other. The type of sculpture recalls that of some Rissoidae and some species of *Chrysallida*.

Liotia rammata, new species.

Shell depressed-turbinate, of four whorls, the first two and two-thirds whorls and the base of the last whorl white, the upper surface of the last whorl and one-third reddish purple; the suture distinct, not appressed; spiral sculpture on the spire of two prominent threads, the posterior angulating the shoulder, the anterior growing more feeble on the last whorl; the rest of the surface is uniformly covered with fine equal closeset smaller threads slightly roughened by fine incremental lines; the only axial sculpture consists of feeble more or less obsolete plications in front of the suture; base rounded, with a small perforate umbilicus of which the margin is not crenate; aperture circular thickened below. Breadth of shell, 4.7; height, 4.0 mm.

Habitat.—Magdalena Bay, L. Cal., C. R. Orcutt. U. S. Nat. Mus. Cat. No. 217,908.

Liotia olivacea, new species.

Shell of five depressed-turbinate whorls, suture narrow but not appressed, the color very dark olivaceous, the prominent sculpture paler; nucleus minute, decorticated, but apparently smooth; spiral sculpture of on the upper part of the last whorl four strong elevated cords with wider, almost channelled interspaces, the two posterior cords more adjacent;

on the spire only three cords are visible, the anterior more or less undulated; on the base are a single cord, a wide interval, then three more adjacent smaller plain cords, then three close-set beaded cords at the verge of the small perforate umbilicus; aperture circular, upper lip produced on the body, the interior pearly white; breadth of shell, 6.2; height, 5.5 mm.

Habitat.—Taboga Island, Bay of Panama, James Zetek. U. S. Nat. Mus. Cat. No. 331,837.

Another specimen, long in the collection from Panama, but with no collector's name, has all the spiral sculpture strongly beaded, and may be called variety litharia. I have no doubt it is an extreme variety of the same species.

Liotia (Arene) cookeana, new species.

Shell small, white, depressed, with a narrow crenulated suture and three rapidly enlarging stellate whorls; axial sculpture of (on the last whorl 13) prominent narrow ribs with wider interspaces, acutely produced at the periphery, and extending nearly to the crenate margin of the funiculate umbilicus; the whole surface in addition is covered with fine close-set sharp almost microscopic axial threads; beyond the periphery are four or five spiral cords which do not appear on the ribs; aperture circular, the margin crenated by the sculpture. Breadth of shell, 3.0; height, 1.0 mm.

Habitat.—In 7 to 10 fathoms off South Coronado Island, Dr. Fred Baker. U. S. Nat. Mus. Cat. No. 223,290.

This species may attain a larger size but none is known in the California fauna of which it might be the young. It is named in honor of Miss J. M. Cooke of Point Loma, Cal., to whom we are indebted for many interesting shells.

Liotia acuticostata, new yar. radiata.

Shell resembling the type but with numerous radiating riblets visible in the interspaces between the revolving costae.

Habitat.—Off South Coronado Island in 7 to 10 fathoms, Dr. Fred Baker. U. S. Nat. Mus. Cat. No. 223,291. Also off San Diego in 20 fathoms.

Liotia acuticostata, new var. stearnsii.

Resembling acuticostata but smaller, with more numerous and less prominent spiral cords. Height, 2.3; width, 2.3 mm.

Habitat.—Gulf of California, Stearns. U. S. Nat. Mus. Cat. No. 47,062.